Please replace section 9 of the Examiner's Answer mailed on 8/31/2010 with the following:

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 30, 31 and 33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 30 recites the limitation "the forming tube is formed of a single component" in the first line. The examiner cannot find a description of the forming tube in the specification in which it is disclosed to one of ordinary skill in the art that the molding tube is formed of a single component. The examiner notes that the drawings are merely representative and do not disclose to one of ordinary skill in the art that the forming tube is a single component. Figure 1 shows outer supporting tube 14 and a portion of the hose preform 12. One in the art reading the specification and viewing this figure would not have appreciated the tube is to be formed of a single component (i.e. components such as reinforcement in the hose or a wrapping as shown in Roberts '622 [of record]).

Claim 31 recites the limitation "no support structure" in the first line. The examiner notes that no mention is made of a support structure in Appellant's specification. It is therefore the examiner's position that there is no support for this negative limitation because one of ordinary skill in the art would not appreciate from the specification that a support structure in the product is necessarily being excluded. The examiner notes that Appellant's drawings are merely representative of the invention and do not convey to one of ordinary skill in the art at that the time of the invention that a support structure is being excluded by Appellant's invention.

Claim 33 recites the limitation "an inner surface of the hose is substantially smooth" in the first line. The examiner cannot find any support in the specification for the inner surface of the hose being smooth.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 7, 13, 26, 30, and 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts et al. (USP 2830622) in view of Roberts et al. (USP 2897840) and Sadr (USP 4865799).

In regards to claim 1, Roberts '622 discloses a process for forming a hose into a desired shape in which a hose preform is cut to length (Column 2, lines 30-32), drawn into a forming tube having an inner surface defining a desired tube shape (Column 4, line 32), cured along its length (including the ends) into a desired shape (Column 2, lines 32-38 and Figure 3), and removed from the mold (Figure 5). Roberts states that the body 14 is cured (Column 2, lines 30-38). Because figure 3 shows that the moldable body portion of the hose 14 extends to the end of the hose, it is the examiner's position that Roberts teaches that the entire length of the hose, including the ends, is vulcanized in the cylindrical mold. Because the hose has a distinct length and is in sleeve form (Column 1, lines 41-42), it must have been cut to size before being placed onto the forming mandrel (Column 1, lines 30-34). Roberts '622 discloses that there is at least one end cap on the hose in the mold cavity (Column 3, line 7), but it is unclear whether or not there is an end cap at both ends of the forming tube.

In US patent 2897840, Roberts discloses that when curing a rubber hose, it is beneficial to have end caps at both sides of the mold cavity (Figure 2: 13 and 14) for the benefit of allowing the interior of the hose to be pressurized within the molding cavity (Column 3, lines 29-36). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide an endcap at both ends of the forming tube

disclosed by Roberts in the '622 patent as taught by Roberts in the '840 patent for the benefit of allowing the interior of the hose to be pressurized. Roberts further discloses in the '840 patent that when endcaps are present at both ends of the hose, then both ends of the hose will be flush with their respective endcaps (Figure 2). One of ordinary skill in the art looking at Figure 2 of the '840 patent would appreciate that because the ends of the hose are completely within the molding cavity when they are positioned against the endcaps, they will be cured during the heating step. Furthermore, the need to trim any uncured portions from the hose is never mentioned in either the '622 patent or the '840 patent, it is therefore the examiner's position that this is never needed.

Roberts '622 does not disclose the presence of a loading end and a vacuum end, where the step of drawing the hose includes inserting the first end of the hose into said loading end of said forming tube.

Sadr discloses that when loading an elongated parison into a tubular mold cavity (Abstract), it is beneficial to feed the parison into an end of the mold cavity which is opposite of a vacuum end for the benefit of the vacuum facilitating the loading of the parison into the mold (Column 2, lines 48-52). Therefore, one of ordinary skill in the art would have found it obvious to use the vacuum end and loading end taught by Sadr with the cylindrical tube of the previous combination for the benefit of aiding in the loading the parison into the tube.

Sadr further discloses that the vacuum be applied to the bottom end (vacuum end) (Column 2, line 49) of the mold cavity to facilitate loading of the parison.

In regards to claim 7, rather than using air pressure from the vacuum end to eject the molded parison from the mold cavity, Sadr utilizes a two-piece mold which is able to be separated in order to access the molded product. However, because Roberts '622 discloses a cylindrical tube (Column 4, line 32) for the molding cavity, it would be necessary to remove the hose axially from the mold. Because Sadr discloses that a negative pressure at the vacuum end assists in moving the parison axially into the mold cavity, it would have been obvious to one of ordinary skill in the art at the time of the invention that a positive pressure would assist in axially removing the formed parison from the mold cavity. Therefore, one of ordinary skill in the art at the time of the invention would have found it obvious to apply a positive pressure to the vacuum end of the cylindrical tube taught by the previous combination for the benefit of ejecting the hose out of the molding cavity.

In regards to claim 13, Roberts '622 further discloses that rubber can be used to make the hose (Column 2, line 32). Rubber is a polymer.

In regards to claim 26, Roberts '622 further discloses performing the process steps in the required order.

In regards to claim 30, it is the examiner's position that because Roberts '622 further disclose that a cylindrical tube (Column 4, line 32) can be used to mold the hose,

one of ordinary skill would appreciate that the mold cavity of Roberts '622 is a single component.

In regards to claim 33, it is the examiner's position that one of ordinary skill in the art would appreciate from figure 3 of Robert '622 that the inner surface of the hose is smooth and frictionless.

In regards to claim 34, Roberts '622 further discloses that the mold cavity will impart the hose with a smooth outer surface (Column 1, line 26).

In regards to claim 35, Roberts '622 further discloses that the hose have a smooth, molded outer surface (Column 3, line 16).

In regards to claim 36, Roberts '840 further discloses that when using two endcaps, the ends of the hose are flush with the endcaps and create a flat surface (Figure 2).

Claims 2, 3, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the previous combination of Roberts et al. (USP 2830622) in view of Roberts et al. (USP 2897840) and Sadr (USP 4865799) as applied to claim 1 above, and further in view of Akman et al. (USP 4957687).

In regards to claims 2 and 3, although it would have been obvious to one of ordinary skill in the art at the time of the invention that the cylindrical tube (Column 4, line 32) of Roberts '622 would need to be held in some manner during the molding process, Roberts '622 is silent to the type of mechanism which is used to hold the cylindrical molding tube.

Akman discloses that when using a tubular cavity (Figure 1) to shape a hose, it is well known in the art to clamp the tubular cavity during the molding step (Column 3, lines 37-40) for the benefit of simultaneously securing the parison within the mold (Column 3, lines 37-38). Therefore, one of ordinary skill in the art at the time of the invention would have found it obvious to use a clamping mechanism to hold the cylindrical tube of Roberts '622 stationary for the benefit of simultaneously securing the parison within the mold cavity.

In regards to claim 14, Roberts '622 is silent as to the material used to create the cylindrical tube.

Akman discloses that when heating a hose preform within a molding tube, it is beneficial to construct the tube out of metal (Column 2, line 25) for the benefit of metal providing fast heating and cooling times (Column 2, line 29). Therefore, in order to provide rapid heating and cooling to the process of Roberts '622, one of ordinary skill in the art at the time of the invention would have found it obvious to construct the cylindrical mold out of metal, as taught by Akman.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the previous combination of Roberts et al. (USP 2830622) in view of Roberts et al. (USP 2897840) and Sadr (USP 4865799) as applied to claim 1 above, and further in view of Voss et al. (USP 3859408).

In regards to claim 4, Roberts '622 is silent as to the step of lubricating the hose before drawing it into the forming tube.

Voss discloses that one of ordinary skill in the art at the time of the invention would have found it obvious to lubricate the hose before drawing it into the molding cavity for the benefit of preventing stretching (Column 3, lines 59-62).

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the previous combination of Roberts et al. (USP 2830622) in view of Roberts et al. (USP 2897840) and Sadr (USP 4865799) as applied to claim 1 above, and further in view of Hoshishima et al. (USP 5518035).

In regards to claim 11, the previous combination does not disclose flaring at least one end of the hose.

Hoshishima disclose flaring at least one end of a hose (Abstract) for the benefit of creating a connection site where the hose can be attached to another part (Figures 5 and 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the hose disclosed by the previous combination with the

flare disclosed by Hoshishima for the benefit of allowing the hose to be attached to certain structures.

In regards to claim 12, Hoshishima further discloses that the flare is created by inserting a plug into an end of the hose, the plug having an outer diameter which is greater than the hose's inner diameter (Figure 3).

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over the previous combination Roberts et al. (USP 2830622) in view of Roberts et al. (USP 2897840) and Sadr (USP 4865799) as applied to claim 1 above, and further in view of Torghele (USP 4483815).

In regards to claim 15, Roberts '622 discloses that the rubber hose needs to be heated within the cylindrical tube (Column 4, line 24) but is silent as to the source of heat.

Torghele discloses that when a tubular hose is encased in a cylindrical tube, it is well known in the art to cure the hose by subjecting the exterior of a pipe to a heated fluid (Column 3, lines 40-43). Although the process of Torghele is designed to continuously cure a rubber hose, one of ordinary skill in the art at the time of the invention would appreciate from the disclosure of Torghele that by submerging the cylindrical tube taught by the previous combination into heated steam, the rubber hose would become vulcanized. Therefore, one of ordinary skill in the art would have found it

obvious to cure the rubber by submerging it in heated steam, for the benefit of this being a well-known curing method.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over the previous combination of Roberts et al. (USP 2830622) in view of Roberts et al. (USP 2897840) and Sadr (USP 4865799) as applied to claim 1 above, and further in view of Houser (USP 4325355).

In regards to claim 16, Roberts '622 discloses that the rubber hose needs to be heated within the cylindrical tube (Column 4, line 24) but is silent as to the source of heat.

Houser discloses that it is well known in the art to create heat by employing an electric wrap (Column 3, line 13). Therefore, one of ordinary skill in the art would have found it obvious to use an electric wrap to create heat, as taught by Houser, to heat the cylindrical tube taught by the previous combination for the benefit of this being a well-known method of supplying energy.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over the previous combination of Roberts et al. (USP 2830622) in view of Roberts et al. (USP 2897840) and Sadr (USP 4865799) as applied to claim 1 above, and further in view of Babbin et al. (USP 4512942).

In regards to claim 17, Roberts '622 discloses that the rubber hose needs to be heated within the cylindrical tube (Column 4, line 24) but is silent as to the source of heat.

Babbin discloses that it is well known in the art to cure rubber hose by subjecting them to microwaves (Column 1, lines 45-48). Although the process disclosed by Babbin is a continuous process for curing rubber hoses, one of ordinary skill in the art at the time of the invention would have appreciated from the disclosure of Babbin that microwaves would also be capable of curing the rubber hose produced in the batch process of Roberts. Therefore, one of ordinary skill in the art would have found it obvious to cure the rubber with microwaves for the benefit of this being a well-known curing method.

Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over the previous combination of Roberts et al. (USP 2830622) in view of Roberts et al. (USP 2897840) and Sadr (USP 4865799) as applied to claim 1 above, and further in view of Sadr (USP 4865799) and Voss et al. (USP 3859408).

In regards to claim 28, Roberts '622 does not disclose the presence of a loading end and a vacuum end, where the step of drawing the hose includes inserting the first end of the hose into said loading end of said forming tube.

Sadr discloses that when loading an elongated parison into a tubular mold cavity (Abstract), it is beneficial to feed the parison into an end of the mold cavity which is

opposite of a vacuum end for the benefit of the vacuum facilitating the loading of the parison into the mold (Column 2, lines 48-52). Therefore, one of ordinary skill in the art would have found it obvious to use the vacuum end and loading end taught by Sadr with the cylindrical tube of the previous combination for the benefit of aiding in the loading the parison into the tube. The examiner notes that rather than using air pressure from the vacuum end to eject the molded parison from the mold cavity, Sadr utilizes a two-piece mold which is able to be separated in order to access the molded product. However, because Roberts '622 discloses a cylindrical tube (Column 4, line 32) for the molding cavity, it would be necessary to remove the hose axially from the mold. Because Sadr discloses that a negative pressure at the vacuum end assists in moving the parison axially into the mold cavity, it would have been obvious to one of ordinary skill in the art at the time of the invention that a positive pressure would assist in axially removing the formed parison from the mold cavity. Therefore, one of ordinary skill in the art at the time of the invention would have found it obvious to apply a positive pressure to the vacuum end of the cylindrical tube taught by the previous combination for the benefit of ejecting the hose out of the molding cavity. This hypothetical combination does not disclose lubricating the hose before drawing.

Voss discloses that it is well known in the art to lubricate hose before drawing it into a molding cavity for the benefit of preventing stretching (Column 3, lines 59-62). Therefore, in order to prevent stretching, one of ordinary skill in the art would have found it obvious to lubricate the hose (as disclosed by Voss) before performing the drawing steps of the above hypothetical combination.

In regards to claim 29, one of ordinary skill would appreciate from the disclosure of Roberts '622 that the process steps are performed in the required order.

Claims 1, 31-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Logan et al. (USP 4013101) in view of Roberts et al. (USP 2830622) and Roberts et al. (USP 2897840).

In regards to claims 1, 31 and 32, Logan discloses molding an elastomeric hose (Abstract) that can be created from a continuous feedstock (Column 15, lines 40-41) and the curing the hose in a corrugated mold (Column 14, lines 50-53). One of ordinary skill in the art would appreciate that a continuous hose feedstock (such as an extruded tube) needs to be cut to length before being molded in a mold cavity. It is suggested to one of ordinary skill in the art at the time of the invention that the specific geometry of the molding cavity in Figure 19 is merely one example of the type of device which can be used (Column 19, lines 25-26), suggesting to one of ordinary skill in the art that any well known mold for curing a corrugated pipe while internally applying a heated fluid would be acceptable.

Roberts '622 discloses a well known process for forming a hose into a desired shape in which a hose preform is cut to length (Column 2, lines 30-32), drawn into a forming tube having an inner surface defining a desired tube shape (Column 4, line 32), cured along its length (including the ends) into a desired shape (Column 2, lines 32-38

and Figure 3), and removed from the mold (Figure 5). Roberts '622 states that the body 14 is cured (Column 2, lines 30-38). Because figure 3 shows that the moldable body portion of the hose 14 extends to the end of the hose, it is the examiner's position that Roberts teaches that the entire length of the hose, including the ends, is vulcanized in the cylindrical mold. Because the hose has a distinct length and is in sleeve form (Column 1, lines 41-42), it must have been cut to size before being placed onto the forming mandrel (Column 1, lines 30-34). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the curing process of Roberts '622 to cure the hose of Logan for the benefit of Roberts disclosing a curing process that is well known in the art. For the above hypothetical combination, Roberts '622 discloses that there is at least one end cap on the hose in the mold cavity (Column 3, line 7), but it is unclear whether or not there is an end cap at both ends of the forming tube.

In US patent 2897840, Roberts discloses that when curing a rubber hose, it is beneficial to have end caps at both sides of the mold cavity (Figure 2: 13 and 14) for the benefit of allowing the interior of the hose to be pressurized within the molding cavity (Column 3, lines 29-36). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide an endcap at both ends of the forming tube disclosed by the above hypothetical combination (as taught by Roberts in the '840 patent) for the benefit of allowing the interior of the hose to be pressurized. Roberts further discloses in the '840 patent that when endcaps are present at both ends of the hose, then both ends of the hose will be flush with their respective endcaps (Figure 2). One of ordinary skill in the art looking at Figure 2 of the '840 patent would appreciate

that because the ends of the hose are completely within the molding cavity when they are positioned against the endcaps, they will be cured during the heating step. Furthermore, the need to trim any uncured portions from the hose is never mentioned in either the '622 patent or the '840 patent, it is therefore the examiner's position that this is never needed.

Logan discloses that a supporting structure (Column 16, line 38) which ensures that the hose does not collapse (Column 16, line 52) is not present during the curing step (Column 16 lines 43-44). Therefore, one of ordinary skill in the art would appreciate that the internal pressure from the steam which urges the hose outwardly during the curing of Roberts '622 is also inherently preventing it from collapsing.

In regards to claim 33, Logan further discloses that the hose can be partially cured on a mandrel before being corrugated (Figures 15 and 16). One of ordinary skill would appreciate that because the inner surface of the hose is cured against a shaping surface, it will be given a smooth (low-friction) surface that will be present in the final hose.

In regards to claim 34, Roberts '622 further discloses that the mold cavity will impart the hose with a smooth outer surface (Column 1, line 26).

In regards to claim 35, Logan further discloses that the outer surface of the hose be part of the homogenous mass of the hose (Column 15, lines 32-33).

In regards to claim 36, Roberts '840 further discloses that when using two endcaps, the ends of the hose are flush with the endcaps and create a flat surface (Figure 2).